Welcome to the Code Update

Sit back - Relax

Turn this exciting information into knowledge

Try not to sleep

Turn your phones to vibrate – take calls outside

Ask good questions

2009 State Code Adoptions

Effective June 1, 2009

- Residential Energy Code – Chapter 1322 (with radon rules)
- Commercial Energy Code – Chapter 1323 (ASHRAE 90.1)
- 2006 International Mechanical Code – Chapter 1346
- 2006 International Fuel Gas Code – Chapter 1346
- Mn Rule 1303.2300 – Window Fall Prevention (July 1)

Residential Energy Code – Chapter 1322

Make up of the 2009 Residential Energy Code

- Chapter 1322 of the Minnesota State Building Code (Adopts & Amends)
- Chapter 11 of the 2006 International Residential Code
- Appendix Chapter F – 2006 IRC – Radon Control Methods
- Numerous Standards

Residential Energy Code – Chapter 1322

Where does the new code apply?

- All newly constructed residential buildings (IRC & IBC)
- Three (3) stories or less that contain no conditioned common space and units have separate means of egress
- Additions to existing dwellings

Residential Energy Code – Chapter 1322

What is exempt?

- Portions of the building that do not enclose conditioned space, including garages
- Existing basements that are altered (remodeled or finished) are exempt from R-value, air barrier, and vapor retarder requirements
- Other alterations to existing dwellings must comply with as many requirements as feasible as determined by the Building Official (?)
- Buildings that have been designated as historical by the state or local government
- Mixed use buildings – Only the residential portions of the building must comply with this code
- Buildings with a peak design energy rate usage less than 3.4 BTU per hour, or 1.0 Watt, per square foot

Residential Energy Code – Chapter 1322

What needs to be included in the permit submittal materials?

- Plans must show in sufficient detail compliance with the code
- All systems and equipment shall be identified (ventilation/radon)
- Building thermal envelope elements shall be identified and show compliance with one of four methods : R-Value computation (cookbook), Total UA, REScheck, Engineered systems
- All window and door U-values must be identified
- Complete foundation construction details that match one of the prescriptive insulation options (specific - not general)
- Complete radon control system details

Residential Energy Code – Chapter 1322

What will be inspected?

We need to make a best effort to ensure that construction meets all the requirements of the new code

- Foundation construction and inspections will become more critical – many of the new requirements demand prescriptive practices
- Under Slab (radon) – This will become the only additional required scheduled inspection – Near completion & before covering
- Plumbing, Mechanical & Electrical inspections will include energy requirements
- Framing – This inspection will also be the time to verify above ground radon requirements
- Final – Certificate, Heat loss/Equipment, Ventilation

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What typical construction practices are unchanged?

- Attic Insulation Card (Type, Manufacturer, R-Value, Coverage, Signed)
- Rim Joist Construction (R-Value trade-offs)
- Air Barriers
- Vapor Barriers

Residential Energy Code – Chapter 1322

What construction practices will need to be changed?

- Foundation prescriptive R-values and vapor barriers are both a minimum and a maximum!
- Solid course of block at or above grade
- Attic thickness markers (In inches every 100 Sq Ft) used to be an option
- Insulation marking (Product labeling must be visible at inspection)
- Soil-gas retarder on crawl space floors and under interior concrete slab floors (6 Mil minimum – joints lapped 12" – tight fitting)
- Power source for future active system fan required (Outlet) – Plan location for ease of system to be converted to active
- Building Certificate (Minimum information required)

Building Certificate

Table N1101.8	
Component	Certificate requirements
Date certificate is installed	Posted date
Dwelling or dwelling unit location	Mailing address and city
Residential contractor	Name and license number of residential contractor
Insulation installed in or on ceiling/roof, walls, slab-on-grade, and floor	Type and installed R-value
Rim joist and foundation wall insulation	Installed R-value, type, and whether the insulation is exterior, integral, or interior
Fenestration	Average U-factor and SHGC
Ducts outside conditioned spaces	Installed R-value
Mechanical ventilation system	Type, location, and design continuous and total ventilation rates
Make-up air and combustion air systems (if installed)	Type, location, and size
Heating system	Type, input rating, AFUE or HSPF, manufacturer, model, and the structure's calculated heat loss
Domestic water heater	Type, size, manufacturer, and model
Cooling system (if installed)	Type, output rating, SEER, manufacturer, model, calculated cooling load, and the structure's calculated heat gain
Radon control system	Passive or active

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What trade practices will need to be changed?

- Heat loss calculations
- All domestic re-circulating water piping systems must have ½" pipe insulation with a vapor jacket
- All domestic underground piping shall have a minimum of 1" insulation with a vapor jacket
- Domestic pump-circulated hot water systems must be controlled
- Documentation must be provided to the building owner outlining operation and maintenance procedures of ventilation systems
- Backdraft dampers are required at all exhaust terminations
- Ducts must be insulated and sealed based on location
- HVAC piping must be insulated based on location

Residential Energy Code – Chapter 1322

What do the new ventilation requirements change?

- Permanent labels on all ventilation intake and exhaust terminations (No Sharpies)
- Controls for ventilation must be labeled and have a lighted indicator
- Documentation must be provided to the building owner outlining operation and maintenance procedures
- Ventilation systems that exceed required rates may require additional make-up air
- All basements must have a minimum of one supply and one return – separated by ½ the diagonal – or - ventilated (.02 CFM/Sq Ft)
- Compliance with all ventilation requirements when buildings built after April 15, 2000 are altered or receive additions

Residential Energy Code – Chapter 1322

- Energy Code Details Handout
- Today's materials are available on our website
- Questions & Answers
- Thank you for coming!